

**WHAT IS CLAIMED IS:**

- 1           1.       A method comprising:  
2           transmitting a first data stream to a switch fabric, said first data stream having  
3           a first priority; and  
4           at any time during said transmission, interrupting said transmission of said  
5           first data stream to transmit a second data stream to said switch fabric,  
6           said second data stream having a second priority.
- 1           2.       The method of claim 1, further comprising:  
2           resuming transmission of said first data stream if there is no data of said  
3           second data stream to transmit.
- 1           3.       The method of claim 1, further comprising:  
2           stopping said transmission of said first data stream;  
3           transmitting a switch code; and  
4           transmitting said second data stream.
- 1           4.       The method of claim 3, further comprising:  
2           transmitting a switch code; and  
3           resuming transmission of said first data stream.
- 1           5.       The method of claim 1, wherein  
2           said first priority is a low priority; and  
3           said second priority is a high priority.
- 1           6.       The method of claim 1, further comprising :  
2           stopping transmission of a frame of said first data stream after detection of a  
3           start of frame and prior to detection of an end of frame.
- 1           7.       The method of claim 6, further comprising:  
2           transmitting data of said second data stream; and  
3           resuming transmission of data of said first data stream.
- 1           8.       The method of claim 6, further comprising:  
2           transmitting a second priority switch code;

3 transmitting data of said second data stream;  
 4 transmitting a first priority switch code; and  
 5 transmitting data of said first data stream.

1 9. The method of claim 1, further comprising:  
 2 storing data of said first data stream in a first FIFO; and  
 3 storing data of said second data stream in a second FIFO.

1 10. The method of claim 9, wherein said interrupting comprises:  
 2 upon detection of data in said second FIFO, interrupting said first data stream.

1 11. The method of claim 9, further comprising:  
 2 receiving a data stream at a line card, said data stream comprising frames of  
 3 said first data stream and frames of said second data stream; and  
 4 detecting the priority of said frames of said data stream.

1 12. The method of claim 1, further comprising:  
 2 at periodic intervals during transmission of said second data stream,  
 3 transmitting an amount of bytes of data of said first data stream.

1 13. An apparatus comprising:  
 2 a first buffer configured to store data of a first data stream, said data of said  
 3 first data stream having a first priority;  
 4 a second buffer configured to store data of a second data stream, said data of  
 5 said second data stream having a second priority;  
 6 a priority switch circuit coupled to said first buffer and said second buffer,  
 7 wherein said priority switch circuit is configured to  
 8 upon detection of data of said second data stream, interrupt a  
 9 transmission of data of said first data stream at any time during  
 10 said transmission and transmit data of said second data stream.

1 14. The apparatus of claim 13, wherein said priority switch circuit is  
 2 further configured to resume transmission of said first data stream if there is no data  
 3 of said second data stream to transmit.

1           15.     The apparatus of claim 14, wherein said priority switch circuit is  
2 further configured to transmit a first switch code after the second buffer has  
3 transmitted data of said second data stream and prior to transmission of data of said  
4 first data stream.

1           16.     The apparatus of claim 13, wherein said priority switch circuit is  
2 configured to transmit a second switch code upon detection of data of said second  
3 data stream.

1           17.     The apparatus of claim 13 wherein said priority switch circuit is further  
2 configured to interrupt transmission of said first data stream during transmission of a  
3 packet of said first data stream from said first buffer.

1           18.     The apparatus of claim 13 wherein said priority switch circuit is further  
2 configured to transmit an amount of bytes from said first data stream at periodic  
3 intervals during transmission of said second data stream from said second buffer.

1           19.     The apparatus of claim 13 further comprising:  
2 a port coupleable to a network device; and  
3 a forwarding engine coupled between said port and each of said first and  
4 second buffers, said forwarding engine configured to forward frames  
5 of said first data stream to said first buffer and forward second frames  
6 of said second data stream to said second buffer.

1           20.     The apparatus of claim 13 further comprising:  
2 a serial link configured to serialize data received from said first and said  
3 second buffers and said priority switch circuit and transmit said  
4 serialized data to a switching fabric.

1           21.     The apparatus of claim 20 further comprising:  
2 a plurality of buffers, each buffer configured to store data of a data stream,  
3 each data stream having a priority level, wherein said priority switch  
4 circuit is further configured to

5 interrupt a transmission of one of said data streams from one of said  
 6 buffers upon detection of data having a highest priority level,  
 7 and  
 8 transmit data having said highest priority level.

1 22. The apparatus of claim 13 further comprising:  
 2 a switch fabric coupled to said first and second buffers.

1 23. An apparatus comprising:  
 2 a first buffer configured to store data of a first data stream, said data of said  
 3 first data stream having a first priority;  
 4 a second buffer configured to store data of a second data stream, said data of  
 5 said second data stream having a second priority; and  
 6 means for, upon detection of data in said second buffer, interrupting a  
 7 transmission of said first data stream at any time and transmitting said  
 8 second data stream to a switch fabric.

1 24. The apparatus of claim 23, further comprising:  
 2 means for resuming transmission of said first data stream if there is no data of  
 3 said second data stream to transmit.

1 25. The apparatus of claim 23, wherein said means for interrupting  
 2 comprises :  
 3 means for stopping said transmission of said first data stream; and  
 4 means for transmitting a switch code.

1 26. The apparatus of claim 23, wherein said means for interrupting  
 2 comprises:  
 3 means for stopping transmission of a packet of said first data stream after  
 4 detection of a start of frame and prior to detection of an end of frame.

1 27. The apparatus of claim 26, wherein said means for interrupting  
 2 comprises:  
 3 means for transmitting a second priority switch code; and  
 4 means for transmitting a first priority switch code.

- 1           28.    The apparatus of claim 23, further comprising:
- 2                   at periodic intervals during transmission of said second data stream,
- 3                         means for transmitting an amount of bytes of data of said first
- 4                         data stream.